

WHAT IS CLAIMED IS:

1. A method for electromagnetically forming a metallic member comprising deforming an end of a metallic member by instantly inputting an electromagnetic energy for plastic deformation, pressing the outer surface of the deformed end on the surface of a mold to form a flange having a predetermined shape at the end of the metallic member and, at the same time, to work-harden the flange.

2. The method for electromagnetically forming a metallic member according to claim 1, wherein the flange is formed and work-hardened by only one time of electromagnetic forming of the metallic member at a normal temperature.

3. The method for electromagnetically forming a metallic member according to claim 1, wherein the metallic member has a tubular shape, and the end of the metallic member is deformed by inputting an electric energy to a coil inserted into the end of the metallic member to expand the end of the metallic member, and the outer surface of the expanded end is pressed on the mold surface to form a flange having a predetermined shape at the end of the metallic member.

4. The method for electromagnetically forming a metallic member according to claim 3, wherein the tubular metallic member has a wall thickness of 3 mm or more, and the electric energy input at one time of electromagnetic forming is 8 kJ or more.

5. The method for electromagnetically forming a metallic member according to claim 3, wherein the tubular metallic member is disposed and fixed horizontally during electromagnetic forming.

6. The method for electromagnetically forming a metallic member according to claim 3, wherein a widened portion is formed at the back of the flange of the metallic member, and then work-hardened.

7. The method for electromagnetically forming a metallic member according to claim 1, wherein the metallic member is composed of an aluminum alloy.

8. The method for electromagnetically forming a metallic member according to claim 1, wherein the outer surface of the flange has a shape conforming with the shape of the outer surface of another metallic member to be joined to the metallic member.

9. The method for electromagnetically forming a metallic member according to claim 1, wherein the mold has a curved surface so that the formed flange has a curved surface.

10. A metallic member formed by an electromagnetic forming method according to claim 1, wherein the flange is formed by expanding an end of the metallic member and then work-hardening the expanded end.

11. A metallic member formed by an electromagnetic forming method according to claim 1, wherein the metallic member has a tubular shape.